

REMARKS

In the Office Action mailed May 31, 2005, the Examiner initially indicated that the objections in the prior Office Action regarding the drawings have been withdrawn based upon the applicant's prior amendment. Further, the Examiner has also indicated that the prior objections to the specification have also been addressed by the applicant in the prior amendment. Such finding by the Examiner is respectfully appreciated.

In the outstanding Office Action, the Examiner initially objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. Specifically, the Examiner indicated that the specification failed to provide for the limitation of the comfort level scenario being selected by the energy provider and the display of the current energy characteristic using a color. By the present amendment, the claims including the subject matter have either been cancelled or amended to remove the subject matter from the claims.

In the Office Action, the Examiner initially objected to claim 94 under 35 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of the previously claim. By the present amendment, claim 94 has been cancelled such that this claim objection has been rendered moot.

Claims 93 and 95 were both rejected under 35 USC §112, first paragraph and second paragraph. By the present amendment, claims 93 and 95 has been cancelled.

Claim 88 was rejected as being unclear as to the term "the system". By the present amendment, claim 88 has been amended to clarify the claim and remove the language "the system" as required by the Examiner.

Claims 98 and 103 were rejected as not including the proper antecedent basis for limitations in the claim. By the present amendment, claims 98 and 103 have been cancelled from the application such that the rejection made by the Examiner has been rendered moot.

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In the Office Action, claims 11-14, 53, 54, 61-65, 86-97, and 99-102 were rejected under 35 USC §102(b) as being anticipated by the Ehlers U.S. Patent No. 5,924,486 (hereinafter Ehlers '486). The remaining claims 15, 16, 20, 55, 56, 60, 98 and 103 rejected under 35 USC §103(a) as being unpatentable over the Ehlers '486 patent in view of the Axelrod U.S. Patent No. 3,181,791.

Reconsideration of the above claim rejections in view of the foregoing claim amendments and the following arguments for allowance is respectfully requested.

Claims 11-16, 20, 85-92, and 96-97

By the present amendment, independent claim 11 has been amended to more clearly indicate the thermostatic device receives an input from a user that includes a temperature setpoint and a selection of one of a plurality of comfort level scenarios. The comfort level scenario, which is used to determine an offset from the effective setpoint, is selected by the user based upon the user's willingness to pay for energy at the expense of comfort.

Claim 11 further requires the thermostatic device to determine an effective setpoint as a function of the temperature setpoint input by the user and the sensed humidity received from the humidity sensor. The effective setpoint temperature determined by the thermostatic device begins with the temperature setpoint entered by the user and is determined based upon the sensed humidity. Once the effective temperature setpoint has been determined, the thermostatic device maintains air temperature at the site within a deadband defined by the effective setpoint and an offset calculated from the effective setpoint. The offset is calculated based upon the selected comfort level scenario and the current level of energy costs.

In the Office Action, the Examiner stated that the Ehlers '486 patent taught an input function 15 that provides an interface input for temperature and humidity sensors and that the system of the '486 patent determines an effective setpoints as a function of the temperature setpoints and the sensed humidity. The applicant strongly disagrees with such finding by the Examiner.

In the Ehlers '486 patent, the disclosure states in column 10, lines 15-30 that the input function 15 can receive information from sensors, such as temperature and humidity sensors. However, the disclosure of the '486 patent does not suggest, in any portion of the disclosure, the use of the sensed humidity to modify the temperature setpoints to determine effective setpoints used in controlling the temperature and environment management system to maintain the air temperature within a deadband defined by the effective setpoint and an offset.

The Ehlers '486 patent does not state or imply anywhere in the description that the input from the humidity sensor is used to adjust the temperature setpoint. Instead, the '486 patent teaches an output function 45, which may include humidifiers and dehumidifiers. Thus, the input from the humidity sensor discussed in the specification of the '486 patent is most likely utilized to control the operation of humidifiers and dehumidifiers, rather than modifying the user-selected temperature setpoints to effective setpoints, as required by amended independent claim 11 of the present application.

Further, independent claim 11 allows the user to select one of a plurality of comfort level scenarios that define the user's willingness to pay for energy as a function of the temperature offset as the price of energy increases or decreases. Thus, as the energy costs increase or decrease, the thermostatic device automatically adjusts the offset based on the selected comfort level scenario and the current energy cost level. Claim 11 states that the offset from the effective setpoints is based on the selected comfort level scenario and the current level of energy costs. Thus, the offset is based upon the desired comfort level selected by the user and the current level of energy costs. This feature is not taught or suggested, nor rendered obvious, by the Ehlers '486 patent cited by the Examiner in the Office Action.

In citing the Ehlers '486 patent, the Examiner stated that the reference taught control of the temperature within a premise to remain within user inputted maximum and minimum comfort points and energy costs cutoff points. Although the Ehlers '486 patent does teach operating within a deadband range that may vary depending

upon the energy costs, the deadband is always centered around a user-selected thermostat setpoint. In accordance with claim 11, the offset is calculated from the effective setpoint, rather than the temperature setpoint entered by the user. Thus, claim 11 allows for better control of temperature within a premise based on the modification of the temperature setpoint to the effective setpoint based upon the sensed humidity. Clearly, this feature is not taught or suggested by the Ehlers '486 reference cited by the Examiner.

Claims 12-16, 20, 85-92 and 96-97 depend directly or indirectly from amended claim 11 and are thus believed to be allowable based upon the above arguments for allowance, as well as in view of the subject matter of each claim.

Dependent claim 86 includes the additional limitation that the thermostatic device allows the user to define a plurality of occupancy modes, where each occupancy mode has a separate user defined temperature setpoint and selected comfort level scenario. In rejecting claim 88, the Examiner indicated that the Ehlers '486 patent allowed the user to select occupancy modes having defined temperature setpoints and selected comfort level scenarios. The applicant hereby disagrees with such finding by the Examiner. Although the Ehlers '486 reference suggests indicating whether the occupancy is either vacant or occupied and calculating a deadband range for each state, the Ehlers '486 patent does not allow the user to select a temperature setpoint and comfort level scenario for each of a plurality of occupancy modes.

Dependent claim 92 includes the limitation that the comfort level scenarios include at least a maximum savings, balanced savings and comfort and maximum comfort selections. In rejecting this claim, the Examiner stated that the Ehlers '486 reference taught these three levels of comfort/cost savings. However, reviewing the portions of the Ehlers '486 reference cited by the Examiner, the Ehlers '486 reference simply teaches utilizing the same deadband range for both a heating and cooling application. The '486 patent does not teach or suggest allowing the user to select between the three comfort level scenarios including a maximum savings, balanced savings and maximum comfort, as required by claim 92.

Claims 53-56, 60-65, 99-100 and 102

In the Office Action, independent claim 53 was also rejected under §102(b) based upon the Ehlers '486 patent described above. By the present amendment, claim 53 has been amended to more clearly indicate that each of the comfort level scenarios relate the willingness of the user to pay for energy at the expense of comfort. Based upon the selected comfort level scenario and the characteristic of energy, the method determines an offset from an effective setpoint. The effective setpoint is determined as a function of the temperature setpoint and the sensed humidity. As amended, claim 53 indicates that the offset varies from the effective setpoint as a function of the selected comfort level scenario and the characteristic of energy. Thus, the air quality is managed based upon an effective setpoint determined as a function of the temperature setpoint and the sensed humidity and the offset from the effective setpoint is based upon the selected comfort level scenario and the characteristic of energy.

In rejecting claim 53, the Examiner stated that the Ehlers '486 reference taught these features of the invention. As described in the argument for allowance of claim 11, the Ehlers '486 reference does not teach or suggest, nor render obvious, the calculation of an effective setpoint based upon both humidity and the temperature setpoint received from a user. Further, the Ehlers '486 reference does not teach or suggest determining an offset from the effective setpoint based upon the selected comfort level scenario, where the comfort level scenario relates to the willingness to pay for energy at the expense of comfort.

Based upon these claim amendments, independent claim 53 is believed to be in condition for allowance.

Claims 54-56, 60-65, 99-100 and 102 depend directly or indirectly from amended independent claim 53 and are both thus believed to be allowable based upon the above arguments for allowance, as well as in view of the subject matter of each claim.

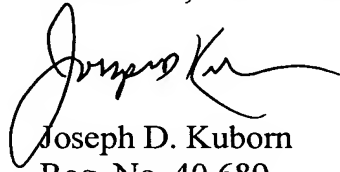
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Conclusion

Based upon the above claim amendments and the arguments for allowance, claims 11-16, 20, 53-56, 60-65, 85-92, 96-97, 99-100 and 102 are believed to be in condition for allowance. The Examiner is invited to contact the applicant's undersigned attorney to facilitate prosecution of the present application.

Respectfully submitted,

ANDRUS, SCEALES, STARKE & SAWALL, LLP



Joseph D. Kuborn
Reg. No. 40,689

100 East Wisconsin Avenue, Suite 1100
Milwaukee, Wisconsin 53202
Telephone No. (414) 271-7590
Attorney Docket No.: 4834-00010